

**REMARKS**

This paper responds to the Office Action mailed April 22 2004.

Claims 1-9 and 21-25 are pending in this application.

Claims 10 to 20 were previously withdrawn in response to an election requirement. In the response mailed November 25, 2003, it was intended to revise Claim 10 to make it dependent on claim 1, and thus have Claims 10-20 considered, but inadvertently the claims were marked as "withdrawn" and were thus not considered in the RCE. They were never cancelled. By this amendment, Claim 10 has been properly amended, and rewritten in dependent form. Claims 11 to 20 remain in their original form.

Page 1/3 of the drawings has been amended to correct some errors in the reference numbers of Figure 2. A new page 1/3 accompanies this response. The corrected references are 34,30 and 14. It is assumed that the amendment has been entered, but since the Office Action was silent on this subject, it is re-submitted.

Claims 1 - 9 have been allowed, and claims 21 and 22 have been rejected under 35 USC 102(e) as being anticipated by "Sobiski". Claims 10 - 21 are each dependent on claim 1, and should therefore be allowable for the same reasons as for claim 1. Reconsideration of the rejection of Claims 21 and 22 is requested.

Sobiski discloses a device for introducing a variable differential group delay, using a cascade of birefringent elements in the form of polarization maintaining (PM) fibers. In Sobiski, there is a cascade of birefringent elements and a fixed angular relationship between the axes of the elements. In order to control the output of the device, the DGD of each element can be modulated.

DGD is modulated in each element by means of the application of external stress to the PM fibers, and indeed Soblski is directed primarily to the "Fiber Squeezing Device" for applying this transverse stress (see title).

In the detailed example, the fast axes of adjacent fiber sections are oriented at 45 degrees relative to one another (column 4 line 36). This orientation is fixed. Other possible orientations are envisaged, but in each case there is "use of a plurality of phase shifters having azimuths oriented in a particular manner" (column 4 line 52).

The instant invention relates to the use of a cascade of birefringent elements with static DGD and with polarization rotation between the elements. In order to simplify the control scheme for the multiple rotation operations, at most two of the birefringent elements have orientations other than 0 or 90 degrees for any particular output setting. The invention thus provides a simplified control scheme when many rotation functions are to be performed to provide control of the output of the device.

To clarify this distinction over Soblski, claim 21 has been amended to require that the at least four birefringent elements have "predetermined static differential group delays". Furthermore, the controller has been defined as controlling the control devices "thereby to provide the variable differential group delay", to make clear that the variable output is achieved through the angular control.

It is respectfully submitted that these amendments to claim 21 provide a clear distinction over Soblski. Furthermore, Soblski is not at all concerned with control of angular orientations within the device, particularly as these angular orientations are fixed. There is therefore no disclosure or suggestion of how to simplify the control of multiple angular orientations as provided by the instant invention.

Detailed arguments are not presented in respect of the dependent claims. However, the arguments of the Examiner should not be taken to be accepted.

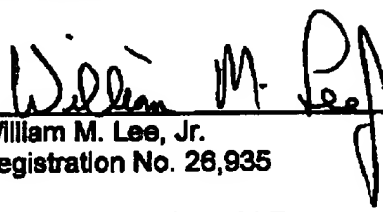
10

In view of the arguments above, it is submitted that this application is in order for allowance. Such action is therefore solicited.

Respectfully submitted,

Date: \_\_\_\_\_

7/20/04

  
\_\_\_\_\_  
William M. Lee, Jr.  
Registration No. 26,935

Barnes & Thornburg LLP  
PO Box 2786  
Chicago IL 60690-2786  
(312) 357-1313 Telephone  
(312) 759-5646 Facsimile  
(312) 214-4811 Direct